

AMENDMENTS TO THE CLAIMS

The following is a complete, marked-up listing of revised claims with a status identifier in parenthesis, underlined text indicating insertions, and strike through and/or double-bracketed text indicating deletions.

LISTING OF CLAIMS

1. (Currently Amended) An apparatus for fabricating a semiconductor device, comprising:

a process chamber;

a susceptor, including a heater, disposed within the process chamber and heating a wafer mounted on the susceptor;

a shower part disposed to face the susceptor within the process chamber;

a first supply pipe for supplying a first source gas to the process chamber; and

a heating pipe for heating the first source gas, wherein the heating pipe has one end connected with the first supply pipe, the other end connected with the shower part, the heating pipe surrounding the susceptor, and

wherein the first source gas flowing through the heating pipe, the heating pipe and the wafer, are heated by heat radiated from the susceptor, and

wherein at least a part of the heating pipe is in the same plane as the susceptor.

2. (Cancelled).

3. (Previously Presented) The apparatus of claim 1, wherein the heating pipe has a first heat part coil-shaped to surround a circumference of the susceptor.

4. (Original) The apparatus of claim 3, wherein the first heat part is inside an outer wall of the process chamber.

5. (Original) The apparatus of claim 4, wherein the first heat part is formed ranging from a lower portion of a sidewall of the process chamber to an upper portion of the sidewall of the process chamber.

6. (Previously Presented) The apparatus of claim 3, wherein the heating pipe further has a second heat part disposed in a lower wall of the process chamber and connected with the first supply pipe, and being spiral-shaped to have a radius increasing from a central portion of the lower wall of the process chamber to an outside portion of the lower wall on the same plane.

7. (Previously Presented) The apparatus of claim 6, wherein the heating pipe further comprises a third heat part being disposed at an upper portion within the process chamber and connected with the shower part, and being spiral-shaped to have a radius increasing from a central portion of the upper wall of the process chamber to an outside portion of the upper wall on the same plane.

8. (Original) The apparatus of claim 3, wherein the first heat part is disposed between the outer wall of the process chamber and the susceptor.

9. (Previously Presented) The apparatus of claim 6, wherein the heating pipe further comprises a third heat part extending from the first heat part and surrounding a circumference of the shower part in a coiled shape.

10. (Previously Presented) The apparatus of claim 3, further comprising a liner disposed between the first heat part of the heating pipe and the susceptor.

11. (Original) The apparatus of claim 1, further comprising a second supply pipe for supplying a second source gas to the shower part.

12. (Original) The apparatus of claim 11, wherein the apparatus is a metal organic chemical vapor deposition (MOCVD) apparatus.

13. (Previously Presented) The apparatus of claim 12, wherein the first source gas is a gas flowing into the process chamber at a room temperature, and the second source gas is a gas inflowing into the process chamber in a heated state.

14. (Cancelled).

15. (Original) The apparatus of claim 11, wherein the shower part comprises: a first inlet part which the first source gas flows into; a second inlet part which the second source gas flows into, wherein the second inlet part is separated from the first inlet part.

16. (Original) The apparatus of claim 1, wherein a layer deposited is a ferroelectric layer.

17. (Original) The apparatus of claim 11, wherein the first source gas is an oxygen gas, and a second source gas includes lead (Pb) or compounds thereof, zirconium (Zr) or compounds thereof

and titanium (Ti) or compounds thereof.

18-33. (Cancelled).

34. (New) An apparatus for fabricating a semiconductor device, comprising:

a process chamber;

a susceptor, including a heater, disposed within the process chamber and heating a wafer mounted on the susceptor;

a shower part disposed to face the susceptor within the process chamber;

a first supply pipe for supplying a first source gas to the process chamber; and

a heating pipe for heating the first source gas, wherein the heating pipe has one end connected with the first supply pipe, the other end connected with the shower part, the heating pipe surrounding the susceptor, at least a part of the heating pipe being in the same plane as the susceptor, and wherein the heating pipe includes:

a first heat part in the shape of a flat helical coil in the side wall of the process chamber;

a second heat part in the shape of a flat coil in the lower wall of the process chamber;

and

a third heat part in the shape of a flat coil surrounding the shower part, and wherein the first gas flowing through the heating pipe, the heating pipe and the wafer are heated by heat radiated from the susceptor.

35. (New) The apparatus of claim 34, wherein the first heat part is inside an outer wall of the process chamber.